DIRECT TESTIMONY OF
MICHAEL P. WINGO
ON BEHALF OF
CAROLINA GAS TRANSMISSION CORPORATION
F/K/A SOUTH CAROLINA PIPELINE CORPORATION
DOCKET NO. 2007-6-G

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND POSITION.

A. My name is Michael P. Wingo, and my business address is 105 New Way Road Columbia, South Carolina 29223. I am employed by Carolina Gas Transmission Corporation ("CGTC"), formerly known as South Carolina Pipeline Corporation ("SCPC"), as General Manager – Gas Control & Operations Planning.

Q. PLEASE DESCRIBE YOUR EDUCATION AND BUSINESS BACKGROUND.

A. I have a Bachelor of Business degree in Marketing from Georgia State University. After graduating from college in 1976, I became employed by Atlanta Gas Light Company ("AGLC"). I held numerous positions during my tenure at AGLC, and in 1998, I became Vice President – Gas Supply for AGLC.

Q. WHEN WERE YOU HIRED BY SCANA AND IN WHAT CAPACITY?

A. In 2000, I joined SCANA Energy Marketing, Inc. in Georgia as Manager of Operations, and in 2001, I was promoted to General Manager – Gas Supply & Capacity Management, for SCANA Services Company, Inc. In December 2005, I became General Manager – Gas Control & Operations Planning for SCPC.

Q. WHAT WERE YOUR DUTIES AS GENERAL MANAGER – GAS CONTROL & OPERATIONS PLANNING FOR SCPC?

A. During the period under review, my areas of responsibility for SCPC included the gas control department which monitored system conditions to ensure the safe reliable operation of the pipeline to meet firm contract commitments; operations planning which coordinated with field operations for planned pipeline outages for construction and maintenance activities as well as planning for near term operating conditions on the pipeline to meet firm contract commitments; gas measurement group which handled administrative activities associated with gas measurement such as assuring that all measurements were collected and met validation criteria; and transportation scheduling department which assisted shippers with moving gas on the pipeline.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to discuss, for the period under review, SCPC's portfolio of gas supply service options. Specifically, I discuss the various gas supply options that were available to SCPC, and the gas supply options implemented by SCPC. I also discuss the transportation and storage assets used by SCPC to provide natural gas services to SCPC's firm customers during the period under review. Finally, I discuss the various types of contracts that were available to SCPC in establishing its gas portfolio.

Q. WHAT GAS SERVICE OPTIONS WERE AVAILABLE TO SCPC DURING THE PERIOD UNDER REVIEW?

A. There were four gas service options available to SCPC. The gas service options were (1) wellhead gas supply; (2) underground storage; (3) pipeline transportation; and (4) liquefied natural gas ("LNG"). These options were available through the three (3) interstate pipelines connected to SCPC's system, on two of which SCPC held firm transportation contracts, as well as SCPC's on-system LNG facilities.

Q. PLEASE DESCRIBE SCPC'S GAS SUPPLY PORTFOLIO.

A. SCPC's gas supply portfolio included each service option discussed above, and SCPC combined these services to meet its firm demand under varying weather conditions at a reasonable cost. At January 1, 2006, SCPC had fifteen (15) firm wellhead contracts for a maximum daily quantity of 170,000 dekatherms ("Dt") per day. Spot wellhead purchases were also made as required to meet system needs. Additionally, SCPC planned to avoid any carry over gas supply contracts into the SCPC/SCG post merger time period. This objective was accomplished by the November 1, 2006 merger effective date.

Q. PLEASE DESCRIBE SCPC'S UPSTREAM FIRM TRANSPORTATION CAPACITY CONTRACTS AS WELL AS ITS STORAGE CONTRACTS.

A. At January 1, 2006, upstream firm transportation capacity contracts totaled 287,714 Dt per day on the two (2) interstate pipelines that provided service directly to SCPC: Southern Natural Gas Company ("Southern") and

Transcontinental Gas Pipe Line Corporation ("Transco"). Production area underground storage contracts totaled 6,515,450 Dt of storage capacity. The maximum injection and withdrawal quantity for these contracts totaled 47,295 Dt per day and 124,978 Dt per day, respectively. Market area underground storage contracts totaled 86,564 Dt of storage capacity and maximum injection and withdrawal quantity of 506 Dt per day and 3,524 Dt per day, respectively. Exhibit No. __ (MPW-1) provides a summary of the firm transportation and underground storage maximum daily capacity by pipeline supplier.

SCPC's on-system LNG facilities had a total storage capacity of 1,880,000 Mcf. The maximum liquefaction rate for these LNG plants was 6,000 Mcf and assuming the ability to achieve 100% nameplate capacity, the maximum vaporization rate was 150,000 Mcf. While these facilities had the nameplate capability to vaporize 150,000 Mcf/day, SCPC used them to provide an LNG peaking service with a planned vaporization of 105,000 Mcf/day.

Q. AS PART OF THE MERGER, DID SCPC TRANSFER THIS CAPACITY?

Yes. Concurrent with the effective date of the merger, SCPC permanently released its firm transportation and storage contracts to SCPC's former resale customers under the terms of the settlement filed with the Federal Energy Regulatory Commission ("FERC") in SCPC/SCG's merger application which was supported by SCPC's customers and the South Carolina Office of Regulatory Staff.

Q. PLEASE DESCRIBE THE WELLHEAD GAS SUPPLY OPTION.

A. Natural gas wells generally produce natural gas at a constant rate year-round, and SCPC possessed the ability to purchase a supply of natural gas directly from the wellhead. Once SCPC purchased a supply of wellhead gas, the interstate pipeline company then transported the gas directly to SCPC's system. As will be discussed more fully below, SCPC had the option to purchase wellhead gas on a firm or spot basis.

Q. PLEASE DESCRIBE THE UNDERGROUND STORAGE OPTION.

A. After purchase, some wellhead gas may be stored in underground facilities located nearer the wellheads or closer to the consumer markets. Depending upon location, these underground facilities are referred to as either production area storage or market area storage. Gas stored in these underground facilities was available for withdrawal and delivery to SCPC's system during periods of high demand. Additionally, SCPC could inject and withdraw gas from these facilities in order to "balance" the system on a daily basis.

Typically, underground storage facilities operate on an annual cycle. During the summer months, the storage is filled, and in the winter months, the storage is withdrawn. Underground storage is withdrawn at a much faster rate than it can be refilled. Additionally, as gas in storage decreases, the rate at which gas can be withdrawn decreases. Further, as the quantity of gas in storage increases, it becomes more difficult to inject gas into storage and the rate of injection decreases. Accordingly, both injection and withdrawal quantities ratchet

(the reduced ability to withdraw or inject gas into storage) and decline with increasing or decreasing storage inventory levels respectively.

Q. WHERE DID SCPC TYPICALLY STORE ITS GAS AFTER PURCHASE?

A. During the period under review, SCPC maintained contract storage with the interstate pipelines at the following facilities: Southern's storage located in Prarie County, Mississippi (Muldon Storage Field) and Bienville Parrish, Louisiana (Bear Creek Storage Field); and Transco's storage located in St. Landry Parrish, Louisiana (Washington Storage Field); Covington County, Mississippi (Eminence Storage Field); Potter & Clinton Counties, Pennsylvania (Wharton/Leidy Storage Fields known as GSS); and Carlstadt County, New Jersey (LNG Service facility). These storage assets allowed the Company to flow additional volumes of gas into SCPC's system when needed. They also allowed SCPC to balance wellhead supply with system load requirements, thereby mitigating the potential for imbalance charges. In aggregate, as reflected on Exhibit No. ___ (MPW-2), the Company subscribed to 6,602,014 million Dt of interstate storage capacity.

Q. WHAT INTERSTATE STORAGE ASSETS WERE AVAILABLE TO THE COMPANY TO AID IN DELIVERING RELIABLE AND SECURE GAS SERVICE TO SOUTH CAROLINA CUSTOMERS?

A. The Company subscribed to 5,167,164 Dt of storage on Southern's system, with maximum daily withdrawal capability from this storage equaling 104,337 Dt per day at peak storage inventory and maximum daily injection capability of 39,747 Dt per day. On Transco, SCPC subscribed to 1,434,850 Dt per day of

storage, with a maximum withdrawal quantity of 24,165 Dt per day of which 20,641 Dt per day could have been delivered within firm transportation service and 3,524 Dt per day in addition to firm transportation service. The maximum daily injection capability into Transco storage was 8,054 Dt per day. Exhibit No. __ (MPW-2) reflects total storage and withdrawal capacity in a table format.

Q. PLEASE DESCRIBE THE LNG OPTION.

A. As Mr. Dozier stated in his direct testimony, SCPC had two LNG facilities, one at Bushy Park near Charleston and the other at Salley, in Orangeburg County. The Bushy Park facility was able to liquefy and store up to 980,000 Mcf of LNG, while Salley could store up to 900,000 Mcf of trucked-in LNG. Exhibit No. __ (MPW-2) attached hereto sets forth the operational capacity of the LNG storage facilities at Bushy Park and Salley, and shows the combined capacity of these LNG facilities during the period under review.

SCPC's intrastate LNG storage provided service from facilities directly connected to the Company's system and was normally used for needle peak demand, which is the last increment of demand on the coldest hours or days of the winter. This on-system LNG service significantly added to the reliability and security of gas supply during unfavorable operating conditions that may occur from time to time. For example, SCPC's supply of gas could have been unexpectedly interrupted because of a hurricane in the Gulf, or because abnormally cold weather created a spike in demand which in turn may have caused equipment malfunctions, well freeze-ups, and other operational

abnormalities thereby limiting the supply of gas into South Carolina. In these types of instances, SCPC had the ability to employ the use of its on-system LNG facilities for a limited time to offset any adverse effects caused by an upstream interruption.

Again, as part of the Settlement filed with FERC in SCPC/SCG's merger application, SCPC agreed to sell its ownership in these two LNG facilities to SCE&G and in compliance with state regulations for the transfer of plant between regulated utilities. The transfer of ownership took place on the last day of October 2006.

Q. WHY DID SCPC FIND IT NECESSARY TO STORE GAS FOR LATER USE?

A. In SCPC's merchant role, the storage of natural gas was both a beneficial and critical function to the operation of SCPC's gas transmission system. Storage primarily served as an available supplement of gas to SCPC's existing wintertime wellhead gas supplies. However, storage also served other useful purposes. For example, storage provided added reliability to the system in the event a disruption occurred in SCPC's wellhead supplies. Moreover, SCPC's on-system LNG storage provided an added measure of reliability for interstate capacity disruptions because interstate pipeline outages have no effect upon LNG storage.

Storage also allowed SCPC to "balance" daily differences between the quantities of wellhead gas purchased and the quantities of wellhead gas consumed by SCPC's customers. Additionally, because wellhead gas purchases seldom

match a customer's usage from one day to the next, storage acted as a supplement to wellhead gas purchases in the event a customer's daily consumption of gas exceeded SCPC's wellhead gas purchases for that day. Conversely, storage absorbed any unused wellhead gas purchases in the event a customer used less gas than actual wellhead gas purchases.

Finally, in some instances, storage provided a price benefit to SCPC and its customers. For example, by storing gas during summer months when natural gas prices are usually at their lowest, SCPC was able to reduce the quantity of wellhead gas purchases required during the winter when wellhead gas prices are traditionally at their highest due to high demand.

Q. HOW DID SCPC UTILIZE ITS COMBINED INTERSTATE STORAGE AND INTRASTATE LNG TO ENSURE RELIABLE AND SECURE GAS SERVICE?

A. There are two dimensions to storage services: peak capability and duration. SCPC used its storage to address both of these dimensions. Certain storage services are geared toward providing large withdrawal quantities to meet spikes in demand on very cold days but only for a short period of time. The storage services in SCPC's portfolio of this type included Transco LNG, Transco ESS and both the Bushy Park and Salley LNG facilities located on SCPC's system. Accordingly, these storage services provided SCPC with peak capability.

Other storage services are geared toward meeting demand over more of the winter period and not only on the coldest days. The storage services in SCPC's

portfolio of this type include Transco WSS, Transco GSS and Southern's CSS. Therefore, these storage services provided SCPC with duration capability. Through the active management of all these assets, SCPC was able to meet the needs of its firm customers on the coldest days of the winter and over the entire winter.

Q. PLEASE DESCRIBE THE AVAILABLE INTERSTATE PIPELINE TRANSPORTATION OPTION.

A. SCPC contracted for interstate pipeline transportation capacity on both a firm and interruptible basis.

Interstate Firm Transportation ("FT") service permits the customer access to the interstate pipeline transportation capacity on a priority basis. On the other hand, interstate Interruptible Transportation ("IT") service is only available when pipeline FT customers, such as SCPC, are not using their FT capacity. IT service is curtailed when FT customers use their capacity. In other words, FT and IT services use the same physical pipeline capacity, with FT service having priority. SCPC contracted for FT service from the pipelines to ensure delivery of natural gas during colder periods when the full transportation capacity of the pipeline was used.

The FT service contract demand volume, which provides priority to the use of the interstate pipeline capacity, determined the fixed cost of gas transportation service to SCPC under the interstate pipeline company's rates filed with and approved by FERC. This fixed cost was paid every month regardless of the

quantity of gas actually transported by SCPC. Additionally, the interstate pipeline companies had a variable charge associated with each Dt of gas transported by them on behalf of SCPC. This cost increased or decreased monthly depending upon usage.

Q. PLEASE DESCRIBE THE CONSIDERATIONS EVALUATED BY SCPC IN ASSEMBLING ITS GAS SUPPLY PORTFOLIO.

A. The Company began its evaluation by reviewing the gas supply, storage, transportation, and other assets already under contract. Other considerations included such things as geographical delivery limitations, maximum volumes, storage ratchets, must-take volumes, and the cost of the various services. SCPC then compared the resources to the varying weather conditions. Finally, the Company determined whether additional resources were required under the varying weather conditions.

Q. PLEASE DESCRIBE THE USE OF EACH OF THESE VARIOUS SERVICES WITHIN THE PORTFOLIO.

A. SCPC placed different levels of reliance on its various supply sources based on the time of year in question. In the early part of the winter, SCPC sought to use its wellhead gas as its principal supply. To the extent that wellhead gas was not sufficient, SCPC then would use the natural gas stored in underground storage facilities in descending order of the duration of their supply capability. Lastly, SCPC would use on-system LNG to meet the last increment of demand on the coldest days or hours of the year.

As the winter progressed, this order of usage may have been modified under certain circumstances to take advantage of economic opportunities. For example, if South Carolina experienced mild weather during the early part of the winter and storage inventories were relatively high, then underground storage withdrawals may have been used instead of wellhead supply.

Q. WOULD YOU ELABORATE FURTHER ON VARIOUS WEATHER CONDITIONS CONSIDERED IN THE PLANNING PROCESS?

A. Yes. Winter weather in South Carolina is highly volatile. Temperatures may range from unseasonably warm to frigidly cold in a very short period. In addition, weather in a winter month such as January may change dramatically from year to year. Exhibit No. ___(MPW-3) provides the actual heating degree days for the Columbia area for each January from 1956 through 2005.

Q. PLEASE DESCRIBE A HEATING DEGREE DAY.

A. Heating degree day is an industry accepted measure of the potential heating demands that weather conditions create. Simply stated, a heating degree day is a comparative measure of cold weather.

In order to calculate the number of heating degree days experienced in a twenty-four (24) hour period, simply subtract the average temperature for a twenty-four (24) hour period from sixty-five (65) degrees Fahrenheit. Accordingly, the result of this calculation is the total number of heating degree days experienced during that particular twenty-four (24) hour period. The greater

the number of heating degree days experienced, the colder the weather during that period.

Q. HOW DOES THIS TYPE OF WEATHER VARIATION AFFECT GAS SUPPLY REQUIREMENTS?

A. The volatility of winter weather in South Carolina required SCPC to maintain a flexible gas services portfolio. The portfolio had to be capable of meeting both large swings in firm demand from day to day within the winter season, and swings over a winter season, which can range from warmer than normal to colder than normal.

Q. PLEASE DESCRIBE SCPC'S WELLHEAD GAS SUPPLY CONTRACTS.

A. SCPC entered into firm long-term contracts for gas supply at the wellhead with various producers and marketers. At January 1, 2006, SCPC had fifteen firm wellhead supply arrangements under contract or under negotiation. The contracts were for varying amounts of flowing gas and had expiration dates which prevented any contracts from carrying over into the post-merger time period. The prices under most of SCPC's contracts were based on monthly spot prices; however, SCPC had the option to negotiate a monthly price using various benchmark prices. The commodity price represents the value of spot gas in the market and the reservation fee is based on the length of the firm supply commitment and the take flexibility. The volumes under contract represent purchases from major oil and gas producers, independent producers, and national marketers. During the review

period, SCPC utilized three types of firm supply contracts: baseload, take-or-release and daily flexibility.

Q. PLEASE DESCRIBE A FIRM BASELOAD CONTRACT.

A. A baseload contract is the least flexible supply contract. Under this contract, the supplier had an obligation to furnish gas and SCPC had an obligation to purchase the contract quantity every day for the term of the contract. Suppliers like these types of contracts because they best match the operating characteristics of gas wells which produce gas at relatively consistent levels and do not require much management of the supply source.

Q. PLEASE DESCRIBE FIRM CONTRACTS WITH TAKE-OR-RELEASE FLEXIBILITY.

A. Take-or-Release flexibility allowed SCPC to know that it had a firm supply of gas across the winter period much like baseload gas contracts but also provided the additional right to not take gas for the month. As an example, a Take-or-Release contract for 10,000 Dts for the period November to March would allow the Buyer to exercise the right to "take" 10,000 Dts for November and for December to "take" 8,000 Dts and "release" the remaining 2,000 back to the supplier and in March to "release" the entire 10,000 Dts back to the supplier.

Q. PLEASE DESCRIBE FIRM CONTRACTS WITH DAILY FLEXIBILITY.

A. Daily flexibility allowed SCPC to nominate for delivery a quantity of gas between zero and the daily contract maximum each day. This type of contract allowed SCPC to respond to both increases and decreases in demand within the

same delivery month. These types of contracts require more management by the supplier again because gas wells produce at relatively consistent levels.

Q. ARE THERE OTHER TERMS ASSOCIATED WITH FIRM GAS SUPPLY CONTRACTS?

A. Yes. Beyond take flexibility provisions as described above, gas supply contracts typically include performance standards, penalty provisions, reservation fees, and other miscellaneous terms. Each provision affects the value of the contract in the portfolio.

Q. PLEASE DESCRIBE A SPOT PURCHASE.

A. In a spot purchase, the buyer agrees to buy and the seller agrees to sell on a best effort basis. Generally, if the buyer and seller agree on a volume and price, the sale is effective for a specific period or until either party chooses to end the arrangement.

Q. DID SCPC MAKE SPOT GAS PURCHASES AS PART OF ITS PORTFOLIO?

A. Yes. SCPC had the ability to purchase spot gas from approximately forty-three (43) different suppliers.

Q. WHAT REQUEST DO YOU HAVE OF THE COMMISSION IN THIS PROCEEDING?

A. During the period under review, SCPC contracted for sufficient supplies of natural gas and provided reliable service to its customers. At no time during the period under review was SCPC forced to curtail gas service to any of its firm

service customers. SCPC adequately maintained gas, storage, and transportation assets for its system during the period under review at levels that were prudent and reasonably met the reliability and service needs of the system. It is my opinion that SCPC's management of these assets during the period under review has been prudent and reasonable. Therefore, I respectfully request the Commission find that SCPC's cost for gas purchases and asset management were reasonable and prudent for this final period under review.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

South Carolina Pipeline Corporation
Firm Transportation and Storage Contracts Available During the Review Period

		Maximum Firm Transportation Dt/Day	Production Area Storage Maximum Withdrawal Dt/Day	Market Area Storage Maximum Withdrawal Dt/Day	Expiration Date
Southern					
FSNG214-1 FT	Firm Transportation	44,650			October 31, 2010
FSNG214-2 FT	Firm Transportation	22,684			October 31, 2010
FSNG214-3 FT	Firm Transportation	5,105			October 31, 2010
FSNG214-4 FTNN	Firm Transportation	84,521			October 31, 2010
FT	Firm Transportation	34,988			October 31, 2010
	CSS		102,100		August 31, 2010
	CSS		2,237		August 31, 2010
Transco					
.3704 Z1 - Z5	Firm Transportation	5,155			December 31 2008
.3704 Z2 - Z5	Firm Transportation	7,582			December 31 2008
.3704 Z3 - Z5	Firm Transportation	5,762			December 31 2008
.3704 Z3 - Z5	Firm Transportation	11,827			December 31 2008
2.0764 Station 65 (Sunbelt)	Firm Transportation	55,977			October 31, 2017
2.0764 Station 85 (Sunbelt)	Firm Transportation	9,463			October 31, 2017
	WSS		15,221		March 31, 2008
	ESS		5,420		October 31, 2013
	GSS			791	March 31 2013
	GSS			663	See Note 1
	LGA			2,070	October 31, 2016
Company Owned LNG				153,150	
	Totals	287,714	124,978	156,674	

Note 1: Service is being provided under NGA authority

INTERSTATE STORAGE AND LNG STORAGE

I. Interstate Storage

	Pipeline	Type	MSQ	MDWQ
	Southern	CSS	5,167,164	104,337
	Transco	ESS	54,536	5,420
	Transco	GSS	43,409	791
	Transco	GSS	32,805	663
	Transco	WSS	1,293,750	15,221
	Transco	LNG	10,350	2,070
	Total Transco		1,434,850	24,165
	Total Interstate		6,602,014	128,502

II. SCPC On-System LNG

(in mcf)	SCPC	LNGS	1,880,000	150,000 [1]

Note: All values are stated in Dt, unless otherwise noted

[1] The LNG facilities had a nameplate capability to vaporize 150,000 Mcf per day. SCPC used these facilities to provide an LNG peaking service with a planned vaporization of 105,000 Mcf per day.

ACTUAL COLUMBIA
HEATING DEGREE DAYS

YEAR	JANUARY
1956-57	531
1957-58	766
1958-59	630
1959-60	603
1960-61	728
1961-62	620
1962-63	726
1963-64	640
1964-66	592
1965-66	759
1966-67	554
1967-68	732
1968-69	683
1969-70	823
1970-71	602
1971-72	429
1972-73	618
1973-74	199
1974-75	417
1975-76	662
1976-77	901
1977-78	850
1978-79	664
1979-80	641
1980-81	809

YEAR	JANUARY
1981-82	748
1982-83	739
1983-84	717
1984-85	792
1985-86	731
1986-87	657
1987-88	780
1988-89	469
1989-90	393
1990-91	571
1991-92	574
1992-93	509
1993-94	687
1994-95	596
1995-96	655
1996-97	567
1997-98	512
1998-99	485
1999-00	672
2000-01	645
2001-02	537
2002-03	700
2003-04	661
2004-05	514
2005-06	433

Average	630
Minimum	199
Maximum	901
Last 30 Years	640